



## CITY OF TACOMA SUSTAINABLE TACOMA COMMISSION MEETING NOTES

**DATE:** December 13, 2011

**COMMISSION MEMBERS PRESENT:** Jane Moore, Jim Gawel, Elaine Ott, Dan Dzyacky, Carol Shiflett, Dale Anderson, Bliss Moore, Ellen Moore,

**COMMISSION MEMBERS EXCUSED:** Phil Coughlan, Steve Garrett, Bill Anderson

**OTHERS PRESENT:** Jessica Knickerbocker, Kristi Lynett, Bill Smith, Lisa Rennie, Rocky Johnson, Catherine Taylor

▪ **Approval of the November 8, 2011 Meeting Notes**

The meeting notes were amended to state: "Seattle Central Community College offers the sustainable building advisor course for **\$2,400** per student." The November 8, 2011, meeting notes were approved and adopted.

▪ **Review of the December Agenda**

The December agenda was approved.

▪ **Design and Retrofitting in Chicago (Innovative Stormwater Examples)**

Surface Water Engineer, Jessica Knickerbocker, recently spent three days in the City of Chicago meeting with staff from their streetscape and sustainable design programs. Their streetscape group was formed out of Chicago's climate action plan, with five strategies out of the 254 performance measures focused on

- Energy efficient buildings
- Clean and renewable energy sources
- Improved transportation options
- Reduced waste and industrial pollution
- Preparation

Chicago took a look at global warming and the effects of rainfall, and how much additional rainfall was expected for that region. Unlike Tacoma, the City of Chicago is on a combined sewer system (sanitary and sewer) so when their streets flood it can become very unpleasant.

- The Great Lakes represent 20% of the Earth's fresh water and 90% of the U.S. fresh water
- The City of Chicago uses a billion gallons of lake water per day.
- Their main concern and motivation for doing green infrastructure is to reduce or eliminate basement and street flooding. The goal is to remove 25% of the impervious surface that drains from the area (retrofitting all of their alleys would represent that 25%).
- Chicago's treatment plant is the largest consumer of energy in the state. All of the stormwater that leaves the site is treated at their treatment plant. All of the treated stormwater then goes into the Mississippi River, and does not drain towards the lake.

### Chicago's Green Alley program

- Made up of six pilot locations and over 130 locations citywide
- Includes use of permeable pavements, recycled materials and high albedo pavements
- Improves stormwater management and energy use through infrastructure improvements

### Lessons learned (design)

- Ratio of permeable to impermeable pavement – Chicago's standard design is the "center trench" as the "full width" design is problematic from a construction standpoint, and in the way it affects the basements when rainwater infiltrates the ground.
- Ensure overflow for surface runoff – All of their designs keep the basic fundamentals of drainage, so they always have an overflow route that runs towards the center and then runs off into the standard conveyance system.
- Post-construction green alleys – Various street sweepers were tested with Tymco being the best. However, Tymco is not designed to pick-up hubcaps, and because their drivers are not allowed out of the sweepers they have opted to use the Pelican sweeper.

### Green Alley maintenance protocol

- Their alleys are maintained twice a year (same as Tacoma).
- They stamp and identify each alley which alerts the sweepers not to use spray.

### Wider implementation

- Their sidewalks are not entirely concrete, instead using permeable pavers to assist with trees and stormwater.
- Paving of residential parking lanes with porous pavement so the entire center of each street is a combination of asphalt/concrete; all the infiltration occurs in the parking lanes.

### Chicago's Market Plaza project

- 0.89 acres of permeable, high albedo pavers (lighter colored bricks) are used to increase reflectivity; pavers have initial SRI of .30 or 32%
- Sites were tested for temperature and found that even when the air temperature was -70 degrees the pavement did not freeze.
- A summer analysis showed that although the pavement got as hot as standard asphalt, it cooled off dramatically at night.

### Chicago's Blue Island sustainable streetscape project

- They used photocatalytic high albedo pavers in the parking lanes, which are designed to eat smog up to eight feet away from where they are placed. A photocatalytic binder is mixed into the concrete and converts the nitrogen oxide into calcium and other material. This process was developed in Italy for the churches that wanted to ensure their concreted remained white and did not fade over time.
- Application of one-half inch paver facemix to the existing asphalt which allows the reflectivity of the whiter materials to reduce their energy-to-bands by 40%

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### Greenroads -

Tacoma has two greenroads projects underway: Cheney Sustainable Stormwater (Cheyenne Street) and Alaska Street Improvements (56<sup>th</sup> to 72<sup>nd</sup>)

- Greenroads – A sustainable rating system for roadway design and construction (similar to LEED certification, but for roads)
- The Greenroads Foundation is a non-profit organization set-up to manage certification reviews and education for greenroads; developed by UWT and CH2MHill
- It is applicable to all roadway projects including new, reconstruction, rehabilitation (overlays) and bridges, and is a holistic way of considering road design from start to finish

### Greenroads categories for voluntary credits

- Environment and water
- Access and equity
- Construction activities

- Materials and resources
- Greenroads *required* elements for each project
- Environmental review process
  - Life cycle cost analysis and life cycle inventory
  - Quality control, mitigation and waste management plans (by the contractor)
  - Pollution prevention, low impact development and site maintenance plans
  - Pavement management system
  - Educational outreach

Why Tacoma should utilize low impact development

- Manages stormwater on-site, thereby enhancing surface water and groundwater through treatment and infiltration
- Minimizes impacts of stormwater runoff (protecting creeks/streams)
- Recharges our groundwater
- Reduces maintenance of stormwater facilities on-site and downstream
- Provides sustainable facilities that are visible to users of the system

The City received a grant to replace Wapato Lake Drive. This site connects into Alaska St. and has a direct discharge into the lake. Design considerations are:

- The lake has elevated levels of phosphorous
- Flow control concerns in Fleet Creek
- Conventional water quality and flow control did not pencil (\$400K); by infiltrating the stormwater from this 4.65 acres will help mitigate Fleet Creek

Cheney Sustainable Stormwater project

- Cheyenne St. – LID stormwater design. The porous pavement will provide water quality and 99% infiltration.
- Bicycle and pedestrian access will be provided from 19<sup>th</sup> with efficient lighting added
- Existing trees will be preserved and new complimentary street trees will be provided (for 25% overall site canopy)

Parking lot improvements

- One acre of porous asphalt infiltration gallery will provide water quality and 85% infiltration for 5 acres
- The design is complemented with sustainable landscaping and striping improvements that will increase available parking

Future City of Tacoma surface water projects

- Focus on infiltration in the Fleet and Leach Creek basins
- Televising the City's entire sewer system (30% or 140 miles has been ranked so far)

#### ▪ Staff Updates

- Brad of Sun's Eye Solar Power will be presenting *Community Solar in Tacoma* to EPW on December 14. The Pacific Avenue Streetscape and Energy Performance contract with McKinstry will also be presented.
- TPU staff will present a brief update to STC on various Legislative items
- 2011 Sustainable Tacoma Grants – 19 grants will be funded (13 education, 6 non-profit)
- Shift Happens, Monday, January 30 – (EB Alliance will have a booth; bookmarks on the Sustainability Expo will be distributed)
- Mayor Strickland's *State of the City* address, as well as follow-up on the Lifecycle City Initiatives - Monday, January 30.
- Sustainability Expo, Saturday, March 3 – (15 to 30 minute workshops throughout the day, along with lots of kids activities)

- Neighborhood and Housing Committee, December 5 - there was discussion on proposing a limit on the number of chickens, reducing the setbacks (15 feet from neighbors residence), retaining the rooster ban, and having a transition period for number of chickens (enforcement)
- South Downtown SEPA held a public meeting last week; with the public comment period soon upcoming, the STC will want to submit a letter of support
- UPS and Sierra Club, Monday, January 23, 5:30 pm – presentation on plastics (global view)

▪ **2011 Work Plan and 2012 Priorities Discussion**

Members revisited the 2011 work plan and 2012 priorities for discussion:

- Ellen will be working with the schools on their anti-idling project.
- The Transportation Subcommittee applied for a \$900K federal grant to obtain funding to help implement the top four master mobility projects.
- A new commission, Pierce Transit Improvement Conference (PTIC), was formed by the Pierce Transit Board. The purpose of this Conference is to consider changing the current boundaries of the Pierce Transit Public Transportation Benefit Area. Once a decision is made, the Board will review the new boundaries and make a determination if they want to move forward with a new initiative.
- With recent budget cuts to the City's Planning positions, there may be a significant impact to the long-range Planning Department, who is responsible for traffic mobility, parking, and transfer development rights
- TPU will be offering a new loan program through Douglas Heat Pumps
- Continue to work with BLUS and Solid Waste on construction and demolition
- Continue research and develop proposal about mandatory recycling
- Research plastic bag and film programs (potential State bill on plastic bags with a \$.05 fee for paper bags)
- Potential State bills on product stewardship (prescription drugs and paint products)
- Promote block foam extruder and reduce consumption initiative
- Support for consumption reduction initiative by having a local website where people can post their inventories. An intern will be brought in to conduct additional research on this program.

▪ **Public Comments**

There were no public comments

▪ **Objectives for Next Meeting**

- Bill Smith/Tacoma Landfill - Presentation on materials management and mitigation
- Urban Forestry program update
- Finalize 2012 priorities

The next meeting of the Sustainable Tacoma Commission will be Tuesday, January 10, 2012, 3:30 p.m. to 5:30 p.m., Tacoma Municipal Building North, 733 Market Street, Room 16.